

Notice of Allowability	Application No.	Applicant(s)	
	10/615,956	LEE ET AL.	
	Examiner	Art Unit	
	Kevin M. Bernatz	1773	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to afterfinal amendment filed 12/15/05.
2. ☒ The allowed claim(s) is/are 1,13,19,20 and 22-31.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

Reasons for Allowance

1. The present claims are deemed allowable over the references of record since the references of record fail to disclose or render obvious the combined structural and property limitations.

While the prior art of record discloses a perpendicular magnetic recording medium comprising at least a first and second perpendicular magnetic recording layer comprising Co and Pt, wherein one of the perpendicular magnetic layers possesses both a higher magnetic anisotropy (K_u) and smaller crystal grains, the prior art of record fails to disclose or render obvious a structure wherein the layer with the higher K_u has $\leq 10\%$ Pt while the layer with the smaller K_u has $\geq 10\%$ Pt. As per applicants' arguments, the prior art teaches away from such a structure since Pt is known to be added to Co-based magnetic layers almost exclusively for the purpose of *increasing* K_u . Using a high Pt concentration for the lower K_u layer would not have been obvious to one of ordinary skill in the art given the high cost associated with Pt and the increased noise typically associated with the lattice expansion incurred by introducing Pt into a Co-based alloy.

2. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Examiner's Comments

3. In order to better clarify the record, the examiner wishes to point out the following references. Honda et al. (U.S. Patent No. 5,851,643) teach a dual layered recording medium (including perpendicular media) wherein both magnetic layers are Co based alloys (including containing Pt) and the upper layer has a larger Ku and lattice constant, d (i.e. grain size). However, Honda et al. does not teach or render obvious using a Pt concentration meeting applicants' claimed limitations for the lower Ku layer (the Examiner notes that all the examples in Honda et al. use the higher Pt concentration for the *higher* Ku layer, as would be expected given the knowledge in the art).

Futamoto et al. (U.S. Patent No. 6,447,936 B1) teach a dual layered perpendicular recording medium wherein one layer possesses a higher Ku than the other layer and the higher Ku layer is implied to have a larger grain size (*col. 18, lines 21 – 25*). However, Futamoto et al. does not teach or render obvious using a Pt concentration meeting applicants' claimed limitations for the higher Ku layer (*col. 18, lines 17 – 25 – minimum Pt% disclosed for second magnetic layer is 18%*). While the Examiner notes that Futamoto et al. does disclose a Co-based alloy with 10% Pt (*col. 18, lines 9 – 10*) as suitable for the lower Ku layer, the Examiner deems that Futamoto et al. does not provide sufficient specificity to anticipate or render obvious the claimed combination of Pt concentrations for both the first and second perpendicular magnetic layers.

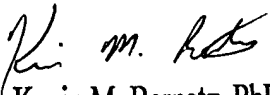
Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin M. Bernatz whose telephone number is (571) 272-1505. The examiner can normally be reached on M-F, 9:00 AM - 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney can be reached on (571) 272-1284. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KMB
January 4, 2006


Kevin M. Bernatz, PhD
Primary Examiner